

WHAT IS CLAIMED IS:

1. A method of routing calls using dialing partitions, comprising:

5 receiving a call request at a first call manager from a first device coupled to a packet-based network, the call request including a telephone number associated with a second device coupled to the packet-based network;

10 accessing a dialing partition table based on a partition search space associated with the first device;

15 determining a routing target associated with one or more telephone numbers in the dialing partition table that match the telephone number in the call request; and

20 communicating the call request to the routing target.

25 15 2. The method of Claim 1, wherein receiving a call request at a first call manager from a first device comprises receiving a call request from an IP telephony device, the call request originating from the IP telephony device.

20 30 3. The method of Claim 1, wherein receiving a call request at a first call manager from a first device comprises receiving a call request from a gateway device, the call request originating from a non-IP telephony device coupled to the gateway device.

30 4. The method of Claim 1, wherein receiving a call request at a first call manager from a first device comprises receiving a call request from the first device including a telephone number associated with an IP telephony device.

5. The method of Claim 1, wherein receiving a call request at a first call manager from a first device comprises receiving a call request from the first device including a telephone number associated with a non-IP telephony device coupled to the packet-based network using a gateway device.

10 6. The method of Claim 1, further comprising: creating a plurality of dialing partition tables; and assigning one or more of the dialing partition tables to the partition search space associated with one or more devices.

15 7. The method of Claim 6, wherein creating a plurality of dialing partition tables comprises creating a dialing partition table including one or more telephone numbers that are local telephone numbers when called from a first geographic area.

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8. The method of Claim 7, wherein the one or more telephone numbers that are local telephone numbers when called from a first geographic area comprise one or more telephone numbers associated with telephony devices located 5 in a second geographic area and accessible from the first geographic area using a gateway device located in the second geographic area.

9. The method of Claim 7, wherein assigning one or 10 more of the dialing partition tables to the partition search space associated with one or more devices comprises assigning the dialing partition table to the partition search space of telephony devices allowed to place local calls.

15 10. The method of Claim 6, wherein creating a plurality of dialing partition tables comprises creating a dialing partition table including one or more telephone numbers that are long distance telephone numbers when 20 called from a first geographic area.

11. The method of Claim 10, wherein assigning one or 25 more of the dialing partition tables to the partition search space associated with one or more devices comprises assigning the dialing partition table to the partition search space of telephony devices allowed to place long distance calls.

12. The method of Claim 6, wherein creating a plurality of dialing partition tables comprises:

5 creating a first dialing partition table including one or more telephone numbers associated with a first organization sharing the packet-based network with a second organization; and

creating a second dialing partition table including one or more telephone numbers associated with the second organization.

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13. The method of Claim 12, wherein assigning one or more of the dialing partition tables to the partition search space associated with one or more devices comprises:

15 assigning the first dialing partition table to the partition search space of telephony devices associated with the first organization; and

assigning the second dialing partition table to the partition search space of telephony devices associated with the second organization.

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14. The method of Claim 6, wherein assigning one or more of the dialing partition tables to the partition search space associated with one or more devices comprises associating the dialing partition tables with an identifier of each device, such that devices having different identifiers but sharing a line appearance may have different partition search spaces.

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15. The method of Claim 6, wherein assigning one or more of the dialing partition tables to the partition search space associated with one or more devices comprises associating the dialing partition tables with both an identifier of a device and a line appearance assigned to the device, such that a device may have a different partition search space associated with each line appearance assigned to the device.

10 16. The method of Claim 1, wherein accessing one or more dialing partition tables comprises accessing one or more dialing partition tables based on a partition search space received from the first device with the call request.

15 17. The method of Claim 1, wherein accessing one or more dialing partition tables comprises accessing one or more dialing partition tables based on a partition search space stored by the first call manager and associated with the first device.

20 18. The method of Claim 1, wherein determining a routing target associated with one or more telephone numbers in the dialing partition tables comprises determining the location of a device control process 25 associated with a telephony device having a telephone number that matches the telephone number in the call request.

19. The method of Claim 1, wherein determining a routing target associated with one or more telephone numbers in the dialing partition tables comprises determining the location of a device control process associated with a gateway device providing access to a telephony device having a telephone number that matches the telephone number in the call request.

20. The method of Claim 1, wherein determining a routing target associated with one or more telephone numbers in the dialing partition tables comprises determining the location of a route list control process associated with a plurality of gateway devices, each gateway device providing access to a telephone number that matches the telephone number in the call request.

21. The method of Claim 1, wherein determining a routing target associated with one or more telephone numbers in the dialing partition tables comprises determining the location of a line control process associated with a telephone number that matches the telephone number in the call request.

22. The method of Claim 1, wherein determining a routing target associated with one or more telephone numbers in the dialing partition tables comprises:

determining that two or more telephone numbers match the telephone number in the call request; and

selecting the telephone number that most closely matches the telephone number in the call request.

23. The method of Claim 22, wherein selecting the telephone number that most closely matches the telephone number in the call request comprises:

5 determining that two or more telephone numbers most closely match the telephone number in the call request; and

selecting the telephone number from the dialing partition listed first in the partition search space.

10 24. The method of Claim 1, wherein communicating the call request to the routing target comprises communicating the call request to a process executing at a second call manager.

15 25. The method of Claim 1, further comprising modifying the telephone number included in the call request based on the routing target.

20 26. The method of Claim 25, wherein modifying the telephone number included in the call request based on the routing target comprises truncating an area code from the telephone number.

25 27. The method of Claim 25, wherein modifying the telephone number included in the call request based on the routing target comprises adding an area code to the telephone number.

~~28.~~ A call manager, comprising:

5 a call control module operable to receive a call request from a first device coupled to a packet-based network, the call request including a telephone number associated with a second device coupled to the packet-based network;

a digit analysis module operable to:

10 receive the telephone number included in the call request from the call control module;

15 access one or more dialing partition tables based on a partition search space associated with the first device; and

determine a routing target associated with one or more telephone numbers in the dialing partition tables that match the telephone number in the call request; and

20 the call control module further operable to receive the routing target from the digit analysis module and to communicate the call request to the routing target.

25 29. The call manager of Claim 28, wherein the first device comprises an IP telephony device, the call request originating from the IP telephony device.

30 30. The call manager of Claim 28, wherein the first device comprises a gateway device, the call request originating from a non-IP telephony device coupled to the gateway device.

35 31. The call manager of Claim 28, wherein the call request includes a telephone number associated with an IP telephony device.

32. The call manager of Claim 28, wherein the call request includes a telephone number associated with a non-IP telephony device coupled to the packet-based network using a gateway device.

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33. The call manager of Claim 28, wherein the digit analysis module is further operable to:

create a plurality of dialing partition tables; and

10 assign one or more of the dialing partition tables to the partition search space associated with one or more devices.

34. The call manager of Claim 33, wherein the digit analysis module is further operable to associate a dialing partition table with both an identifier of a device and a line appearance assigned to the device, such that a device 15 may have a different partition search space associated with each line appearance assigned to the device.

20 35. The call manager of Claim 28, wherein the digit analysis module is further operable to access one or more dialing partition tables based on a partition search space received from the first device with the call request.

25 36. The call manager of Claim 28, wherein the digit analysis module is further operable to access one or more dialing partition tables based on a partition search space stored by the first call manager and associated with the first device.

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37. The call manager of Claim 28, wherein the routing target comprises a device control process associated with a telephony device having a telephone number that matches the telephone number in the call request.

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38. The call manager of Claim 28, wherein the routing target comprises a device control process associated with a gateway device providing access to a telephony device having a telephone number that matches the telephone number in the call request.

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39. The call manager of Claim 28, wherein the routing target comprises a route list control process associated with a plurality of gateway devices, each gateway device, providing access to a telephone number that matches the telephone number in the call request.

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40. The call manager of Claim 28, wherein the routing target comprises a line control process associated with a telephone number that matches the telephone number in the call request.

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41. The call manager of Claim 28, wherein the digit analysis module is further operable to:

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determine that two or more telephone numbers match the telephone number in the call request; and

select the telephone number that most closely matches the telephone number in the call request.

42. The call manager of Claim 41, wherein the digit analysis module is further operable to:

determine that two or more telephone numbers most closely match the telephone number in the call request; and

5 select the telephone number from the dialing partition listed first in the partition search space.

43. The call manager of Claim 28, wherein the call control module is operable to communicate the call request to a process executing at a second call manager.

10 44. The call manager of Claim 28, wherein the digit analysis module is further operable to modify the telephone number included in the call request based on the routing target.

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~~45.~~ Call manager software embodied in a computer-readable medium and operable to perform the following steps:

5 receive a call request from a first device coupled to a packet-based network, the call request including a telephone number associated with a second device coupled to the packet-based network;

access one or more dialing partition tables based on a partition search space associated with the first device;

10 determine a routing target associated with one or more telephone numbers in the dialing partition tables that match the telephone number in the call request; and

communicate the call request to the routing target.

15 46. The call manager software of Claim 45, further operable to:

create a plurality of dialing partition tables; and

assign one or more of the dialing partition tables to the partition search space associated with one or more devices.

20 47. The call manager software of Claim 45, further operable to access one or more dialing partition tables based on a partition search space received from the first device with the call request.

25 48. The call manager software of Claim 45, further operable to access one or more dialing partition tables based on a partition search space stored by the first call manager and associated with the first device.

49. The call manager software of Claim 45, further operable to:

 determine that two or more telephone numbers match the telephone number in the call request; and

5 select the telephone number that most closely matches the telephone number in the call request.

50. The call manager software of Claim 49, further operable to:

10 determine that two or more telephone numbers most closely match the telephone number in the call request; and

 select the telephone number from the dialing partition listed first in the partition search space.

15 51. The call manager software of Claim 45, further operable to communicate the call request to a process executing at a second call manager software.

20 52. The call manager software of Claim 45, further operable to modify the telephone number included in the call request based on the routing target.

~~53.~~ A call manager, comprising:

means for receiving a call request from a first device coupled to a packet-based network, the call request including a telephone number associated with a second device coupled to the packet-based network;

means for accessing one or more dialing partition tables based on a partition search space associated with the first device;

means for determining a routing target associated with one or more telephone numbers in the dialing partition tables that match the telephone number in the call request; and

means for communicating the call request to the routing target.

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54. The call manager of Claim 53, further comprising:

means for creating a plurality of dialing partition tables; and

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means for assigning one or more of the dialing partition tables to the partition search space associated with one or more devices.

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55. The call manager of Claim 53, further comprising means for accessing one or more dialing partition tables based on a partition search space received from the first device with the call request.

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56. The call manager of Claim 53, further comprising means for accessing one or more dialing partition tables based on a partition search space stored by the first call manager and associated with the first device.

57. The call manager of Claim 53, further comprising:
means for determining that two or more telephone
numbers match the telephone number in the call request; and
means for selecting the telephone number that most
closely matches the telephone number in the call request.

5 58. The call manager of Claim 57, further comprising:
means for determining that two or more telephone
numbers most closely match the telephone number in the call
request; and

10 means for selecting the telephone number from the
dialing partition listed first in the partition search
space.

15 59. The call manager of Claim 53, further comprising
means for communicating the call request to a process
executing at a second call manager software.

20 60. The call manager of Claim 53, further comprising
means for modifying the telephone number included in the
call request based on the routing target.